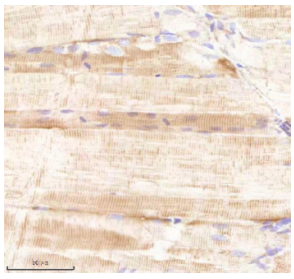
Zebrafish Sars1 Antibody / Serine-tRNA ligase / SerRS (RZ1304)

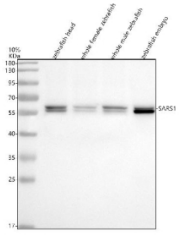
Catalog No.	Formulation	Size
RZ1304	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity chromatography
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q6DRC0
Localization	Cytoplasmic, Nuclear
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish Sars1 antibody is available for research use only.



IHC staining of FFPE zebrafish muscle tissue with Sars1 antibody, HRP-labeled secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot analysis of Sars1 protein using Zebrafish Sars1 antibody and 1) zebrafish head, 2) whole female zebrafish, 3) whole male zebrafish and 4) zebrafish embryo tissue lysate. Predicted molecular weight ~59 kDa.

Description

Zebrafish Sars1, also known as serine tRNA ligase, is an essential enzyme involved in protein synthesis. It belongs to the class of aminoacyl tRNA synthetases, which are responsible for attaching specific amino acids to their corresponding tRNAs during translation. Sars1 specifically catalyzes the attachment of the amino acid serine to its cognate tRNA, a critical step in the elongation of polypeptides during ribosomal protein synthesis. This activity ensures that serine is accurately incorporated into nascent proteins, which is fundamental for proper cellular function and growth.

Zebrafish Sars1 is an ortholog of the human SARS1 protein, with strong sequence conservation and functional similarity between the two species. In both zebrafish and humans, Sars1 plays an important role not only in protein translation but also in maintaining cellular homeostasis and regulating developmental processes that require high rates of protein synthesis. Zebrafish models have proven to be effective for studying Sars1 because of their genetic similarity to humans and the ability to observe its function in early embryonic development.

Currently, there is no evidence of multiple isoforms of zebrafish Sars1, but like many aminoacyl tRNA synthetases, it may have additional roles beyond translation, such as participation in signaling pathways and stress responses. Studies using antibodies against zebrafish Sars1 protein can provide insights into the regulation of translation and its connections to cellular pathways.

Antibodies targeting zebrafish Sars1 are valuable tools for research in protein synthesis, developmental biology, and molecular genetics. Because of its orthology with human SARS1, zebrafish Sars1 serves as a relevant model for studying conserved aspects of translational control and related diseases.

Application Notes

Optimal dilution of the Zebrafish Sars1 antibody should be determined by the researcher.

Immunogen

E. coli-derived zebrafish Sars1 recombinant protein (amino acids R133-K483) was used as the immunogen for the Zebrafish Sars1 antibody.

Storage

After reconstitution, the Zebrafish Sars1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.